Primary Mesenteric Lipoma Causing Closed Loop Bowel Obstruction: A Case Report

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Primary mesenteric lipoma is rare, with fewer than 50 cases described in English-language literature, and those causing bowel obstructions are even more uncommon. The long stalk of the lipoma that caused secondary volvulus and rapid ischemic change in our patient is worth reporting because of its rarity and distinctive picture in emergency abdominal computed tomography.

Key Words: primary mesenteric lipoma, bowel obstruction
(*Kaohsiung J Med Sci* 2005;21:138–41)

Although tumors are commonly found in the head, trunk, extremities, mediastinum, and retroperitoneum of the mesentery, formation of a primary lipoma is rare [1–5]. Fewer than 50 cases have been documented as case reports [1,4–9], and those causing bowel obstruction make up only a small percentage. In our patient, the long stalk of the lipoma that caused secondary volvulus and rapid ischemic change is worth reporting because of its rarity and distinctive picture in an emergency abdominal computed tomography (CT) scan.

Case Presentation

A 45-year-old woman reported the sudden onset of sharp and persistent epigastralgia with radiation to her back and associated cold sweating. Her medical history included hypertension and mitral valve prolapse without gastrointenstinal complaints. Upon physical examination, the abdomen was soft; tenderness with rebounding pain was reported over the periumbilical and epigastric areas. An abdominal CT showed partial obstruction and dilatation of the small bowel at the level of the distal ileum. Also noted was a whirl-shaped appearance of mesentery in the lower left abdomen where a fatty component mass-like lesion (CT no: –108HU) was found 10 mm above the dilated small bowel loops (Figure 1). Despite conservative treatment, the patient suffered from increasing abdominal pain and developed signs of toxicity in the form of leukocytosis and an increasing body temperature. A second abdominal CT, performed 1 day later, showed signs of ischemic bowel disease: progressive dilatation of the small bowel, the development of ascites, and poor enhancement of the bowel wall. The fatty component mass-like lesion with adjacent whirl-shaped appearance of mesentery was persistent (Figure 2). Surgery was performed to remove the mass. A 6.5 × 4.0 × 1.2 cm encapsulated and yellowish mass originating in the mesentery was found with a long stalk encircling the focal ileal loop, causing secondary small bowel volvulus. About 35 cm of ischemic small bowel together with the tumor were resected. Histology showed an encapsulated tumor composed of mature fat cells, which was compatible with the diagnosis of a mesenteric lipoma (Figure 3).

Discussion

Primary mesenteric tumors, often hard to detect, are usually diagnosed upon laparotomy or necroscopy because of their slow growth and infrequent complications such as bowel

Received: September 20, 2004 Accepted: December 7, 2004
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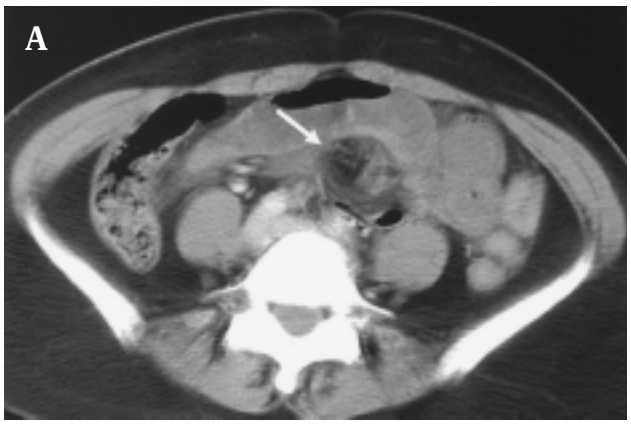

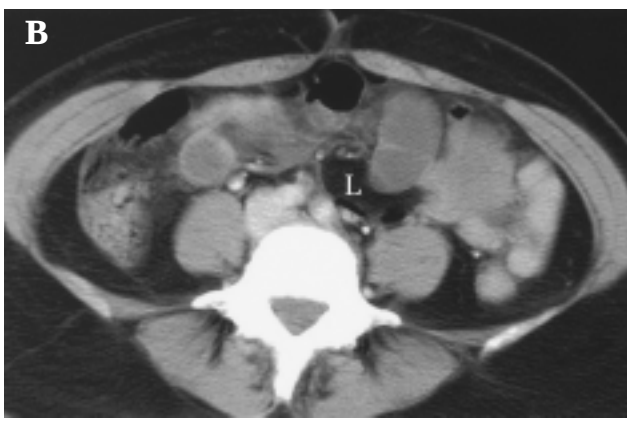

Figure 1. *(A) Contrast-enhanced computed tomography showing a whirl-shaped appearance of mesentery (arrow) at the lower left abdomen and dilatation of small bowel at the level of distal ileum. (B) A fatty component mass-like lesion (L) was found 10 mm above the dilated small bowel loops.*

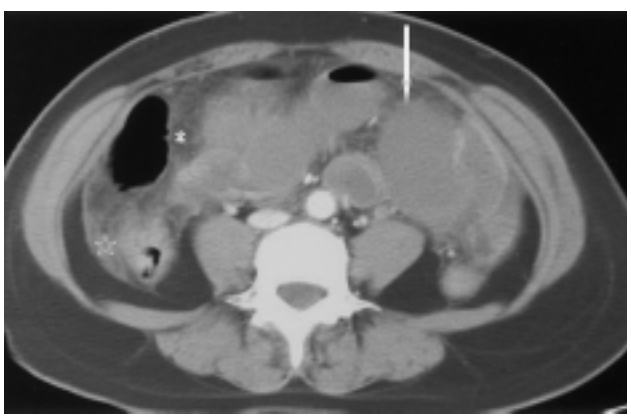

Figure 2. *Emergency contrast-enhanced computed tomography was performed 1 day later which revealed acute exacerbation of bowel obstruction, poor bowel wall enhancement (arrow), ascites (☆), and increased mesenteric infiltration (*).*

obstruction, torsion, invasion of adjoining organs or bowel perforation with peritonitis [7,8,10,12]. Benign cystic tumors occur more frequently than solid tumors. A benign

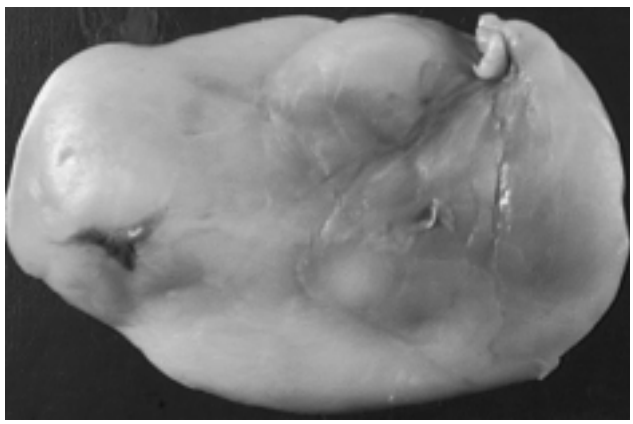

Figure 3. *Gross specimen of the fatty mass composed of pure mature lipocytes. The mesenteric lipoma cut from its stalk was found encircling focal ileal bowel loops and caused secondary ischemic bowel disease.*

mesenteric cyst was first reported in 1507 by Beniviene upon necroscopy [8,11]. Fibromatosis is the most common variant of solid tumors involving the mesentery and is classified as a pseudotumor [10,12–14]. Mesenteric lipomas have been documented in fewer than 50 cases in the English-language literature, few of which were reported to cause bowel obstruction [4–5,7–9].

Routine radiography used to play a significant role in the diagnosis of large tumors. However, emergency abdominal CT is now the most common way of identifying extraluminal or intraluminal lesions causing small bowel obstruction. In addition, the CT number reading provides information about the nature of the lesion and the enhancement pattern. Although few cases have been reported, awareness of the distinctive pictures and negative CT number should lead to an early diagnosis. An early diagnosis may help avoid the development of conditions such as ischemic bowel disease, the onset of which happened in a short period of time in our case. Clinicians should pay attention to the well-defined and even encapsulated mesenteric lipoma which may be misdiagnosed as mesenteric fat because the mesentery is rich in fat. Sometimes, temporary relief from symptoms is observed on changing body position [9]. However, when there is a closed loop of bowel encircled by a long stalk of the lipoma, as in our case, changing positions may cause the stalk to encircle the bowel loops and, thereby, cause an obstruction. In turn, this secondary volvulus finally caused ischemic bowel disease. Despite the benign nature of the tumor, emergency surgical resection of the tumor and reduction of the strangulated small bowel is necessary to reverse the complications. In addition, mesenteric lipomas may undergo malignant

degeneration and fatty necrosis, and entire resection is the treatment of choice [2,4,7,8].

In conclusion, awareness of these rare tumors is vital to making a correct early diagnosis.

REFERENCES

1. Ilhan H, Tokar B, Isiksoy S, et al. Giant mesenteric lipoma. *J Pediatr Surg* 1999;34:639–40.
2. Enzinger FM, Weiss SW. *Soft Tissue Tumours*, 3rd edition. St Louis: Mosby, 1995;384–405.
3. Weiss SW. Lipomatous tumor. *Monogr Pathol* 1996;38:207–39.
4. Sheen AJ, Drake I, George PP. A small bowel volvulus caused by a mesenteric lipoma: report of a case. *Surg Today* 2003;33:617–9.
5. Wolko JD, Rosenfeld DL, Lazar MJ, et al. Torsion of a giant mesenteric lipoma. *Pediatr Radiol* 2003;33:34–6.
6. Sato M, Ishida H, Konno K. Mesenteric lipoma: report of a case with emphasis on US findings. *Eur Radiol* 2002;12:793–5.
7. Signer RD, Bregmen D, Klausner S. Giant lipoma of the mesentery: report of an unusual case and review of the literature. *Am Surg* 1976;42:595.
8. Livne PM, Zer M, Shmuter Z, et al. Acute intestinal obstruction caused by necrotic mesenteric lipoma: a case report. *Am J Proctol Gastroenterol Colon Rectal Surg* 1981;32:19–22.
9. Takagi Y, Yasuda K, Nakada T, et al. Small bowel volvulus caused by a lipoma of the mesentery showing a distinct pattern on preoperative computed tomography. *Dis Colon Rectum* 1998;41:122–3.
10. Hart JT. Solid tumors of the mesentery. *Ann Surg* 1936; 104:184–98.
11. Adams JT. Abdominal wall, omentum, mesentery and retroperitoneum. In: Schwartz SI, Lillehei RC, Shires GT, et al (eds). *Principles of Surgery*, 2nd edition. New York: McGraw-Hill, 1974;1334.
12. Herzog M, Harris ML. Solid tumors of the mesentery with report of a case. *Ann Surg* 1897;26:66.
13. Yannopolous K, Stout AP. Primary solid tumors of the mesentery. *Cancer* 1963;16:914.
14. Weinberger HA, Ahmed MS. Mesenchymal solid tumors of the omentum and mesentery. *Surgery* 1977;82:754.

原發性腸系膜脂肪瘤造成閉鎖性腸阻塞 — 病例報告

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原發性腸系膜脂肪瘤非常稀有，通常是因為已出現一些併發症，或急性腹部症狀時，透過腹腔鏡或解剖時，偶然發現的。而本例病患也是因為腹部急症，在病人的緊急腹部電腦斷層掃描中，能夠透過腫瘤在影像上表現的特色而被診斷出來的。所以，此腫瘤雖然稀有，但仍必須及早診斷，以免造成更嚴重之後果。

關鍵詞：原發性腸系膜脂肪瘤，腸阻塞

（高雄醫誌 **2005;21:138–41**）

收文日期：**93** 年 **9** 月 **20** 日

接受刊載：**93** 年 **12** 月 **7** 日

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